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ever, is said to clear up these points and show wherein the difficulty lay. Nitrogen was given a valency of 3 or 5, but the new theory shows that it is never 5, but 3 or 4. According to Dr. Langmuir no element can have a valency of over 4.

His theory leads to a new theory of valence, called the "Octet Theory," which is said to explain satisfactorily complex inorganic compounds, previously understood only by the application of Werner's theory. This theory has been received sceptically on account of its artificial assumptions, but the new "octet" theory shows the old theories were practically correct, but need modification in certain instances. The old organic and inorganic theories are correlated into one simple theory, indicating that electrons do not revolve. Dr. Langmuir also revises Bohr's theory of stationary states which was believed to explain the spectrum, showing that while his results were correct, the theory was wrong.

SCIENTIFIC ITEMS

WE record with regret the death of Dr. George Ferdinand Becker, geologist of the U. S. Geological Survey since 1879; Joseph Barrell, professor of structural geology at Yale University, and of Charles Brinkerhoff Richards, for twenty-five years Higgins professor of mechanical engineering at Yale University.

THE National Research Council announces the appointment of James Rowland Angell, dean of the faculties, and professor of psychology in the University of Chicago, as chairman of the council for the year commencing July 1, 1918. Dr. Angell succeeds Dr. George E. Hale, director of the Mount Wilson Solar Observatory of the Carnegie Institution of Washington, who has directed the affairs of the council

during the war, and who resigned as chairman on April 30, to return to California. Dr. John C. Merriam, professor of paleontology in the University of California, who has been acting chairman of the council at various times, will direct its affairs until Dr. Angell assumes office in July.

THE American Philosophical Society will procure a portrait of the late Edward C. Pickering to be hung in the hall of the society "as a token of the affectionate regard in which he was held by his fellow members." Professor Pickering was a vice-president of the society from 1909 to 1917.

THE National Academy of Sciences has elected members as follows: Professor Joseph Barrell, whose death is recorded above; Professor Gary Nathan Calkins, zoologist, Columbia University; Professor Herbert D. Curtis, astronomer, Lick Observatory, University of California; Gano Dunn, electrical engineer, New York City; Professor Lawrence J. Henderson, biologist, Harvard University; Professor Reid Hunt, pharmacologist, Harvard University; Professor Treat Baldwin Johnson, chemist, Yale University; Professor W. J. V. Osterhout, botanist, Harvard University; Dr. Frederick A. Seares, astronomer, Mount Wilson Observatory, Mount Wilson, California; Professor William A. Setchell, botanist, University of California; Major General George O. Squier, electrical engineer, chief army signal officer, Washington, D. C.; Professor Augustus Trowbridge, physicist, Princeton University; Professor Oswald Veblen, mathematician, Princeton University; Professor Ernest J. Wilczynski, mathematician, University of California; Professor Edwin Bidwell Wilson, mathematical physicist, Massachusetts Institute of Technology.